INDIANAVIEW 2020 - 2021 ACTIVITIES

IndianaView Student Scholarship Program

IndianaView provided scholarships for four and graduate students from the member educational institutions to participate in geospatial projects. Each of the student provided a fact sheet about their project and a testimonial on how the scholarship assisted them.

Examples of activities that the students completed include: developing a deep learning model to classify six common hardwood tree crowns using UAS-RBG imagery; integrating remotely sensed data and crop simulation models to optimize nitrogen fertilization at the field scale; leveraging deep learning to improve satellite data based crop yield estimation using UAS data as side information; and understanding the formation mechanisms and alteration histories of diagenetic features in Gale crater, Mars, using Earth analogs.
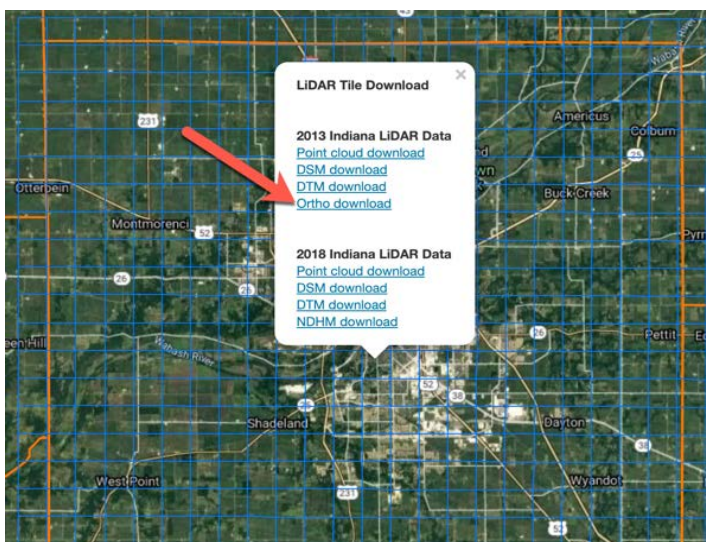
Students testimonials show that the scholarship opportunity motivated them to apply remote sensing data in their disciplinary studies, and improved their confidence in using cutting edge technology in field data collection.

Funded by the IndianaView Scholarship, an efficient model was developed to classify hardwood tree crowns using UAS-RGB imagery.

The Indiana Statewide Lidar data portal allows users to download and preview ortho images and NDHM, DTM datasets.

IndianaView mini-grant program

IndianaView provided a means for partner institution to participate in IndianaView via geospatial projects relative to the state of Indiana. Three mini-grants were funded during 2021 for researchers at Purdue University and Purdue Fort Wayne. One mini-grant project was expanding the Indiana Statewide Lidar data portal to host additional geospatial data products, including Indiana statewide orthomosaic images, web map services for Normalized Digital Height Model (NDHM) and Digital Terrain Model (DTM). All the datasets and services are available here: https://lidar.jinha.org/. The second mini-grant project was to develop an online tutorial for Python programming with remote sensing dataset in ArcGIS Pro. The course information and sample dataset is available here: https://guides.lib.purdue.edu/DataScience/ArcGISPro. The third mini-grant project is to support predictive modelling of Kudzu habitat availability in the Great Lakes region.

BENEFITS TO INDIANA

- Supported by the IndianaView, the Indiana Statewide Lidar data portal has expanded its datasets and visualization capabilities. The visit statistics has been increasing consistently.
- The student scholarship program has greatly encouraged students across Indiana educational institutions to apply geospatial information in their specific research areas. This year's scholarships especially encourage student to apply remote sensing in crop management, including Precision Nitrogen Management for corns and crop yield estimation.
- The visits to online tutorial for Python programming in ArcGIS Pro has been increasing since it was available, with an average monthly visit of more than 250.
- IndianaView website hosts online image puzzles for Earth Observation Day (EOD). After the EOD 2021 online puzzle is available, we have received almost 3,000 visits.
- An interdisciplinary post-bachelor certificate program became available at Purdue University from Summer 2021 through the effort of IndianaView program, which includes the participation of seven colleges at Purdue University.
- Led by IndianaView PI, the first Big Ten Academic Alliance (BTAA) GIS Conferences was hosted virtually in fall 2020 with more than 400 participants.
- Supporting the Purdue University Digital Forestry Initiative in data integration and visualization.
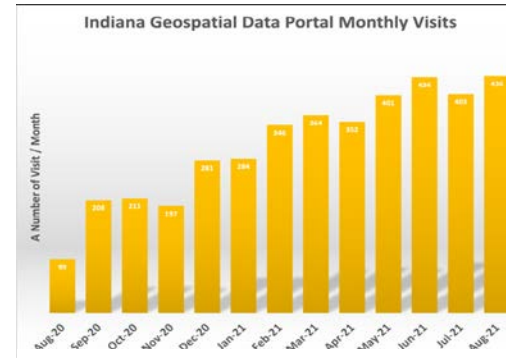
A consistent increase in the number of visits to the Indiana Lidar Data Portal ever since it was launched with the support of IndianaView.
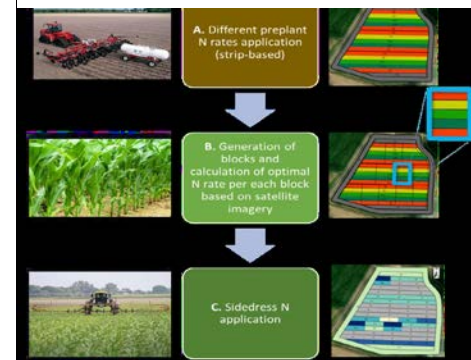
Remote sensing calibration assisted strip-based Precision Nitrogen Management for corns.

INDIANAVIEW CONSORTIUM MEMBERSHIP

Federal consortium members identified above do not receive funding from AmericaView.

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